Actuarial

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Actuary's Certification Letter



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October 7, 2005

Indiana Public Employees' Retirement Fund Board of Trustees 143 West Market Street, Suite 500 Indianapolis, IN 46204

Dear Members of the Board:

Certification of Actuarial Valuations

The actuarial data presented in this report describes the current actuarial condition of the defined benefit pension plans ("Plans") administered by the Indiana Public Employees' Retirement Fund ("PERF"). Valuations are prepared annually as of July 1 for all Plans except the 1977 Police Officers' and Firefighters' Pension and Disability Fund which is annually as of January 1.

Under PERF statutes, employer contribution rates are certified annually for each Plan by the Board of Trustees. These rates are determined actuarially, based on the Board's funding policy. Contribution rates for the PERF Plan as determined by a given actuarial valuation become effective eighteen months after the valuation date (12 months for state employees). For example, the rates determined by the July 1, 2004 actuarial valuation will be used by the Board when certifying the employer contribution rates for the year beginning Jan. 1, 2006 (or for the year beginning July 1, 2005 for state employees). If new legislation is enacted between the valuation date and the date the contribution rates become effective, the Board may adjust the rec-ommended rates before certifying them, in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

General Comment for 2004

The July 1, 2004 PERF Actuarial Valuation is the third valuation of a 4-year phase-in of a new data reporting system that was adopted early in 2002. This new data reporting system collects salary information on a June 30 fiscal year basis (the prior data reporting system collected salary information on a calendar year basis) and also collects service data on a fiscal year basis (the prior system collected service data through the March 31 preceding the July 1 valuation date). The fiscal impact of this change in the data reporting system is being phased in over a 4-year period.

Funding Objectives and Funding Policy

In setting contribution rates, the Board's principal objectives have been:

- to set rates so that the unfunded actuarial accrued liability ("UAAL") will be amortized over a fixed period.
- to set rates so that they remain relatively level over time.

To accomplish this, the Board's funding policy requires that the employer contribution rate be equal to the sum of the employer normal cost rate (which pays the current year's cost) and an amortization rate which results in the amortization of the UAAL in equal installments. The Board has adopted smoothing rules to the determination of the employer contribution rate to reduce the variability of these rates.

No membership growth is anticipated in setting the contribution rate. This is consistent with GASB #25, which prohibits anticipating membership growth in determining the minimum Annual Required Contribution ("ARC").

Under this policy, the objectives of amortizing the UAAL and maintaining relatively level contribution rates over time are achieved.

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Progress Toward Realization of Financing Objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a Plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches 100 percent. The combined funded ratio for all Plans has decreased from the preceding year due primarily to a change in the actuarial assumption regarding COLAs.

Benefit Provisions

The benefit provisions reflected in this report are those which were in effect on each Plan's valuation date.

Assumptions and Methods

Actuarial assumptions and methods used in the valuation are set by the Board, based upon the recommendations of the actuary. The actuary reviews actual plan experience before making these recommendations. The last such review of actuarial assumptions was carried out in connection with the July 1, 2001 actuarial valuation for the PERF Plan and the Jan. 1, 2003 actuarial valuation for the 1977 Municipal Police and Fire pension plan.

Data

Member data for retired, active and inactive members was supplied as of each Plan's valuation date by IPSI, a data vendor for PERF. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. Asset information for each Plan was supplied by PERF and IPSI.

Certification

We certify that the information presented herein is accurate and fairly portrays the actuarial position of each Plan administered by PERF as of each Plan's 2004 valuation date.

We prepared the exhibits in the "Actuarial Section" which include Summary of Actuarial Assumptions and Methods, the Reconciliation of Changes in Unfunded Actuarial Accrued Liabilities, the Solvency Tests, the Schedules of Active Member Valuation Data, and the Schedules of Retirants and Beneficiaries. In addition, we prepared the Schedules of Funding Progress and Schedules of Employer Contributions in the "Financial Section."

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Indiana state law and, where applicable, the Internal Revenue Code, Employee Retirement Income Security Act (ERISA) and the Statements of the Governmental Accounting Standards Board. We are each independent Enrolled Actuaries and Members of the American Academy of Actuaries and experienced in performing valuations for large public retirement systems.

If you have any questions or require additional information, please don't hesitate to contact us.

Sincerely,

Douglas Todd A.S.A., M.A.A.A., E.A.

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Senior Actuary

Richard E. Lenar ES.A., M.A.A.A., E.A.

Chief Actuary

Summary of Actuarial Assumptions and Methods as of July 1, 2004

- Note 1: Prior to July 1, 2003, the COLA assumption was assumed to be 2 percent foir the remaining lifetime of the benefit recipient. Effective July 1, 2003, the time period for the actuarial assumption for COLA was changed from the remaining lifetime of the benefit recipient to five years from the valuation date. This change was applied to Indiana PERF, Legislative Retirement Benefits, and the Excise Police and Conservation Enforcement Officers' Retirement Plan.
- Note 2: Effective July 1, 2004, the COLA assumption was assumed to be 0.5 percent for the remaining lifetime of the benefit recipient. This change was applied to Indiana PERF, Legislative Retirement Benefits and the Excise Police and Conservation Enforcement Officers' Retirement Plan. PERF plans to gradually increase the COLA over the next few years until the assumption reaches 1.5 percent for the remaining lifetime of the benefit recipient.
- Note 3: All systems are using the 1994 U.S. UP-94 (sex distinct) for post-retirement.
- Note 4: Actuarial funding method for all systems is Entry Age Normal Cost, except the Accrued Benefit (Unit Credit) funding method is used for the Legislators' Defined Benefit Plan. Actuarial experience gains and losses are amortized on a level dollar basis for all systems. The amortization period is closed for all systems except the 1977 Police Officers' and Firefighters' Pension and Disability Fund and the Prosecuting Attorneys Retirement Fund which have an open amortization period.
- Note 5: Actuarial asset valuation method is according to example (6) in IRS Regulation 1.412(c)(2)-1(b)(9) for all systems except PERF where valuation assets are equal to 75 percent of expected actuarial value plus 25 percent of market value.

Indiana Public Employees' Retirement Fund

July 1, 2004 Actuarial Valuation

Investment Return	Post-Ret. COLA	1	alary cale	Retirement Rates			Disability Rates			Termination Rates		
7.25 %	0.50 %	1998	n PERF Exp., 5-2000, ole Rates:	Based on PERF Exp., 1995-2000, Sample Rates:		Based on PERF Exp., 1995-2000, Sample Rates:			Based on PERF Exp., 1995-2000, Sample Ultimate Rates:			
					Male:	Female:		Male:	Female:		Male:	Female:
		Age	Rate	Age	Rate	Rate	Age	Rate	Rate	Age	Rate	Rate
		25	16.0%	60	8.0%	12.0%	45	0.14%	0.09%	25	10.0%	10.0%
		35	7.67	62	32.0	26.0	50	0.25	0.16	30	10.0	10.0
		45	6.00	65	40.0	35.0	55	0.44	0.28	35	7.5	7.5
		60	4.94	70	30.0	30.0	60	0.78	0.49	45	3.0	5.0

1977 Police Officers' and Firefighters' Pension & Disability Fund

January 1, 2004 Actuarial Valuation

Investment Return	Post-Ret. COLA	Salary Scale	Retirement Rates		Disability Rates		Termination Rates	
7.25%	2.75%	4.00%	Based on Actuarial Exp. Study 1998-2002 Sample Rates:		150% of 1964 OASDI Sample Rates			rason T-1 nple Rates
			Ages	Male and Female	Age	Male and Female	Age	Male and Female
			50-51	10.0 %	40	0.33 %	30	3.7 %
			52-64	20.0	50	0.91	40	1.1
			65-69	50.0	60	2.44	50	0.0
			70+	100.0	64	3.48	55	0.0

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Summary of Actuarial Assumptions and Methods as of July 1, 2004

Judges' Retirement System

July 1, 2004 Actuarial Valuation

Investment Return	Post-Ret. COLA	Salary Scale	Retirement Rates		Disability Rates		Termination Rates		
7.25 %	5.0% for 1977 System None for 1985 System	5.0 %		on Experience 1964 OASDI nple Rates: Sample Rates				ason T-4 ble Rates	
			Age	Male and Female	Age	Male and Female	Age	Male and Female	
			62	25.0 %	40	0.2 %	30	5.1 %	
			64	10.0	50	0.6	40	4.2	
			65	25.0	60	1.6	50	2.5	
			75	100.0	64	2.3	55	0.9	

Legislators' Defined Benefit Plan

July 1, 2004 Actuarial Valuation

Investment Return	Post-Ret. COLA	Salary Scale	Retirement Rates		Disability Rates		Termination Rates		
7.25 %	0.5 %	3.0 %	Samp	le Rates:	75% of 1964 OASDI Sample Rates			ason T-2 ple Rates	
		_	Age	Male and Female	Age	Male and Female	Age	Male and Female	
			55	10.0 %	40	0.2 %	30	5.1 %	
			58-61	2.0	50	0.5	40	3.5	
			62-64	5.0	60	1.2	50	0.4	
			65	50.0	64	1.7	55	0.0	

Prosecuting Attorneys' Retirement Fund

July 1, 2004 Actuarial Valuation

Investment Return	Post-Ret. COLA	Salary Scale	Retirement Rates	Disability Rates		Termination Rates
7.25 %	None	5.0 %	Later of (a) age 62, or (b) 10 years service	1964	5% of 4 OASDI ple Rates	50% every 4 years
				Age	Male and Female	
				40	0.2 %	
				50	0.5	
				60	1.2	
				64	1.7	

Summary of Actuarial Assumptions and Methods as of July 1, 2004

Excise Police and Conservation Enforcement Officers' Retirement Plan

July 1, 2004 Actuarial Valuation

Investment Return	Post-Ret. COLA	Salary Scale	Retirement Rates		Disability Rates			Termination Rates	
7.25 %	0.5 %	5.0 %	of cu	on Experience urrent retirees mple Rates	etirees United Auto Workers		rs	Sarason T-6 Sample Rates	
			Age Male and Female		Age	Male	Female	Age	Male and Female
			50	3.0 %	40	0.1 %	0.2 %	30	7.4 %
			53	3.0	50	0.4	0.5	40	6.1
			56	6.0	60	1.8	2.4	50	3.6
			60	100.0	64	4.4	5.8	55	1.4

Reconciliation of Changes in Unfunded Actuarial Accrued Liabilities

(Dollars in Thousands)

System	July 1, 2003 Unfunded Actuarial Accrued Liability (UAAL)	Amort. Payments	Interest for Year	Liability (Gain) Loss	Asset (Gain) Loss	Change in Benefit Provisions or Assump.	July 1, 2005 UAAL
Public Employees' Retirement Fund	\$ (259,379)	\$ (19,926)	\$ (17,360)	\$ 141,461	\$ 89,025	\$ 16,704	\$ (9,623)
1977 Police Officers' and Firefighters'	106,400	8,197	7,120	(103,370)	76,440	0	78,394
Pension and Disability Fund*							
1977 and 1985 Judges' Retirement System	80,695	6,216	5,400	(10,821)	5,137	0	74,194
Legislators' Retirement System	748	69	49	(177)	214	(115)	651
Prosecuting Attorneys' Retirement Fund	2,927	226	196	5,099	(63)	0	7,934
Excise Police & Conservation Enforcement	14,720	1,134	985	(5,473)	1,604	535	11,238
Officers' Retirement Plan							

^{*}Beginning Date of 1-1-2003 rather than 7-1-2003, and ending date of 1-1-2004 rather than 7-1-2004.

Solveney Test

(Dollars in Thousands)		Actuarial Accrued Liabilities						
System	As of July 1	(1) Active Member Contributions	(2) Retired and Beneficiaries	(3) Active Member (Employer Financed Portion)	(4) Total Actuarial Accrued Liabilities			
Public Employees'	1999	\$ 1,428,913	2,158,640	3,488,428	\$ 6,630,151			
Retirement Fund	2000	1,647,901	2,303,679	3,748,305	7,699,885			
	2001#	1,728,972	2,426,062	4,150,638	8,305,672			
	2002#	1,886,124	2,582,149	4,597,859	9,066,132			
	2003#	1,971,864	2,764,974	4,297,735	9,034,573			
	2004#	2,211,326	2,927,884	4,705,143	9,844,353			
1977 Police	1999	\$ 184,102	329,662	801,511	\$ 1,315,275			
Officers' and	2000	210,396	353,230	887,828	1,451,454			
Firefighters' Pension and	2001	238,840	384,128	997,326	1,620,294			
Disability Fund	2002	273,787	447,042	1,087,925	1,808,754			
(As of 1-1 instead of 7-1)	2003#	307,929	457,766	1,001,150	1,766,846			
	2004	344,775	452,755	1,077,988	1,875,518			
1977 and 1985	1999	\$ 13,986	82,200	80,115	\$ 176,301			
Judges'	2000	14,922	87,326	80,200	182,448			
Retirement	2001	15,661	96,854	76,095	188,610			
System	2002	16,892	86,997	84,545	188,434			
	2003#	12,595	111,781	82,470	206,846			
	2004	18,415	105,922	85,655	209,992			
Legislators'	1999	\$ 0	2,388	3,085	\$ 5,473			
Defined Benefit	2000	0	2,388	3,085	5,473			
Plan	2001	0	2,431	3,077	5,508			
	2002	0	2,326	3,177	5,503			
	2003#	0	2,278	2,670	4,948			
	2004#	0	2,128	2,728	4,856			
Prosecuting	1999	\$ 5,928	1,879	5,905	\$ 13,712			
Attorneys'	2000	7,033	2,040	4,869	13,943			
Retirement Fund	2001*	8,203	2,162	10,052	20,417			
	2002	9,361	1,965	11,060	22,386			
	2003#	9,489	2,084	4,113	15,685			
	2004	12,237	2,419	7,932	22,588			
Excise Police &	1999	\$ 2,690	13,451	27,227	\$ 43,368			
Conservation	2000	2,863	14,689	28,720	46,272			
Enforcement	2001	3,026	17,116	31,882	52,024			
Officers'	2002	3,102	18,770	34,012	55,884			
Retirement Plan	2002	3,103	17,630	31,274	52,006			
	2004#	3,613	17,788	28,608	50,010			

[#] Actuarial Assumptions and/or methods revised.

^{*} Improvement in benefit provisions.

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Solveney Test (continued)

	Actuarial	Port	ion of Actuarial Accrued	d Liabilities Covered by A	ssets
System	Value Of Assets	(1)	(2)	(3)	(4)
Public Employees'	\$ 7,595,266	100.0%	100.0%	100.0%	107.3%
Retirement Fund	8,267,657	100.0	100.0	100.0	107.4
	8,723,304	100.0	100.0	100.0	105.0
	8,994,854	100.0	100.0	98.4	99.2
	9,293,952	100.0	100.0	100.0	102.9
	9,853,976	100.0	100.0	100.0	100.1
1977 Police	\$ 1,184,905	100.0 %	100.0 %	83.7 %	90.1 %
Officers' and	1,338,554	100.0	100.0	87.3	92.2
Firefighters'	1,491,030	100.0	100.0	87.0	92.0
Pension and Disability Fund*	1,615,245	100.0	100.0	82.2	89.3
Disability Falla	1,660,445	100.0	100.0	89.4	94.0
	1,797,124	100.0	100.0	92.7	95.8
	Φ 04.070	100.0.0/	00.004	0.0.0/	E4 7.0/
1977 and 1985	\$ 91,073	100.0 %	93.8 %	0.0 %	51.7 %
Judges' Retirement	103,733	100.0	100.0	1.9	56.9
System	115,040	100.0	100.0	3.3	61.0
	121,155	100.0	100.0	20.4	64.3
	126,152	100.0	100.0	2.2	61.0
	135,798	100.0	100.0	13.4	64.7
Legislators'	\$ 4,319	NA	100.0 %	62.6 %	78.9 %
Defined Benefit	4,557	NA	100.0	72.9	83.6
Plan	4,666	NA	100.0	72.6	84.7
	4,446	NA	100.0	66.7	80.8
	4,200	NA	100.0	72.0	84.9
	4,206	NA	100.0	76.2	86.6
P	Φ 0.000	100.0.0/	100.0.0/	0.7.0/	00.7.0/
Prosecuting Attorneys'	\$ 8,322	100.0 %	100.0 %	8.7 %	60.7 %
Retirement Fund	9,781	100.0	100.0	14.5	70.2
	11,073	100.0	100.0	7.0	54.2
	11,957	100.0	100.0	5.7	53.4
	12,758	100.0	100.0	28.8	81.3
	14,655	100.0	99.9	0.0	64.9
Excise Police &	\$ 31,510	100.0 %	100.0 %	56.4 %	72.7 %
Conservation Enforcement	34,368	100.0	100.0	58.6	74.3
Officers'	36,921	100.0	100.0	52.6	71.0
Retirement Plan	37,360	100.0	100.0	45.5	66.9
	37,286	100.0	100.0	52.9	71.7
	07,200	100.0	100.0	02.0	/ 1./

Schedules of Active Member Valuation Data

(Dollars in Thousands-except Average)

			Active Members					
System	As of July 1	Active Members		Annual Payroll		Average Pay	Percent Increase	
Public Employees'	1999	141,441	\$	3,250,197	\$	22,979	4.5%	
Retirement Fund	2000	146,613		3,482,453		23,753	3.4	
	2001	145,019		3,587,080		24,735	4.1	
	2002	143,234		3,851,761		26,891	8.7	
	2003	143,082		4,038,680		28,226	5.0	
	2004	142,913		4,214,390		29,489	4.5	
1977 Police	1999	9,228	\$	321,348	\$	34,823	3.4 %	
Officers' and	2000	9,729	Ť	352,377	*	36,219	4.0	
Firefighters'	2001	10,388		389,200		37,466	3.4	
Pension and Disability Fund	2002	10,179		396,246		38,928	3.9	
Disability Fulld	2002	10,737		432,954		40,324	3.6	
	2003	11,238		469,750		41,800	3.7	
		<u> </u>		<u> </u>		<u> </u>		
1977 and 1985	1999	341	\$	30,963	\$	90,801	(0.2) %	
Judges'	2000	336		30,428		90,560	(0.3)	
Retirement System	2001	328		29,748		90,695	0.1	
System	2002	282		25,805		91,507	0.9	
	2003	278		25,400		91,367	(0.2)	
	2004	275		25,693		93,431	2.3	
Legislators'	1999	60		NA		NA	NA	
Defined Benefit Plan	2000	60		NA		NA	NA	
· idii	2001	58		NA		NA	NA	
	2002	58		NA		NA	NA	
	2003	55		NA		NA	NA	
	2004	50		NA		NA	NA	
	* Benefits are not b	ased on annual payroll.						
Prosecuting	1999	202	\$	12,566	\$	62,210	(3.5) %	
Attorneys'	2000	240	φ	13,422	φ	55,926	(10.1)	
Retirement Fund	2001	211					15.6	
				13,636		64,624		
	2002	205		14,438		70,427	9.0	
	2003	218		13,159		60,360	(14.3)	
	2004	214		15,149		70,790	17.3	
Excise Police,	1999	269	\$	11,317	\$	42,071	2.5 %	
Conservation	2000	261	•	11,306	•	43,318	3.0	
Enforcement	2001	255		12,486		48,966	13.0	
Officers' Retirement Plan	2002	254		12,654		49,818	1.7	
Retirefficial Fidit	2003	254		11,944		47,024	(5.6)	
	2003	254 251		10,209		40,675	(13.5)	
	2004	201		10,209		40,070	(10.0)	

Schedules of Retirants and Beneficiaries

(Dollars in Thousands-	except Aver		ed to R	olls		moved m Rolls			Rolls – d of Yea	ır		
System	Year Begin 7-1	No.	Allo	Annual wances+	No.	Allowa	nnual	No.	Allo	Annual wances+	% Increase in Annual Allowances+	Average Annua vances+
Public Employees'	1998	2,817	\$	16,859	1,637	\$	6,002	47,954	\$	215,084	5.0 %	\$ 4,485
Retirement Fund	1999	3,101		18,686	1,750		6,590	49,305		229,846	6.9	4,662
	2000	3,040		19,133	1,576		6,154	50,769		244,320	6.3	4,812
	2001	3,874		23,742	3,551	1	5,771	51,092		263,010	7.6	5,163
	2002	3,978		31,424	2,114		9,216	52,956		289,667	10.1	5,470
	2003	3,975		34,244	2,577	1	2,511	54,354		325,711	12.4	5,992
1977 Police	1998*	1,312	\$	20,911.7	41	\$	643.9	1,544	\$	23,811.6	644.3 %	\$ 15,422
Officers' and	1999	153		2,606.0	51		790.1	1,646		25,710.5	8.0	15,620
Firefighters' Pension and	2000	134		2,070.9	63		805.1	1,717		27,729.3	7.9	16,150
Disability Fund	2001	275		4,477.4	126	1	,336.5	1,866		31,587.3	13.9	16,928
•	2002	90		1,558.4	50		766.7	1,906		34,088.4	7.9	17,885
	2003	65		1,319.5	65	1	,215.4	1,906		34,257.5	0.5	17,974
	*Indiana	statute tran	sferred b	penefit recipier	nts as of July				3 Funds			
1977 and 1985	1998	18	\$	877.8	12	\$	313.7	221	\$	7,393.2	5.7 %	\$ 33,454
Judges'	1999	16		715.5	8		180.7	229		7,822.1	5.8	34,158
Retirement System	2000	20		935.8	7		175.0	242		8,484.8	8.5	35,061
Jystem	2001	11		424.4	18		838.2	235		8,031.0	(5.3)	34,174
	2002	28		1,385.9	5		166.4	258		9,915.0	23.5	38,430
	2003	8		313.4	4		207.5	262		9,853.7	(0.6)	37,609
Legislators'	1998	5	\$	30.5	0	\$	0.0	34	\$	3 225.4	16.6 %	\$ 6,629
Defined Benefit	1999	1		2.4	3		17.6	32		211.3	(6.3)	6,603
Plan	2000	5		37.1	2		13.0	35		237.3	12.3	6,779
	2001	0		0.0	1		5.4	34		232.0	(2.2)	6,822
	2002	9		30.5	4		14.3	39		245.7	5.9	6,301
	2003	0		0	0		0	39		245.8	0.0	6,303
Prosecuting	1998	2	\$	32.1	0	\$	0	16	\$	200.6	19.0 %	\$ 12,540
Attorneys'	1999	1	Ţ	13.5	0		0	17		220.2	9.8	12,951
Retirement Fund	2000	2		16.0	0		0	19		236.1	7.3	12,429
	2001	0		0.0	1		17.1	18		216.2	(8.5)	12,009
	2002	1		30.6	2		21.3	17		225.5	4.3	13,266
	2003	2		38.1	1		7.0	18		256.7	13.8	14,259
Excise Police,	1998	3	\$	51.0	5	\$	38.3	112	\$	1,186.0	2.9 %	\$ 10,589
Conservation	1999	10	·	123.6	3		34.5	119		1,294.6	9.2	10,879
Enforcement Officers'	2000	10		223.7	7		66.2	122		1,470.1	13.6	12,050
Retirement Plan	2001	7		154.1	1		16.4	128		1,619.3	10.1	12,651
	2002											
	2002	5		107.6	5		54.2	128		1,672.6	3.3	13,067

⁺ For PERF only, includes employee annuities